525489

#### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

#### (19) World Intellectual Property Organization International Bureau



### (1881) | 1881 | 1881 | 1881 | 1881 | 1881 | 1881 <del>| 1881 | 1882 | 1884 | 188</del>4 | 1886 | 1886 | 1886 | 1886 | 1886

## (43) International Publication Date 11 March 2004 (11.03.2004)

#### **PCT**

# (10) International Publication Number WO 2004/021700 A1

(51) International Patent Classification<sup>7</sup>: 5/913, G06T 1/00

H04N 5/76,

(21) International Application Number:

PCT/IB2003/003650

- (22) International Filing Date: 12 August 2003 (12.08.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02078544.0

28 August 2002 (28.08.2002) EP

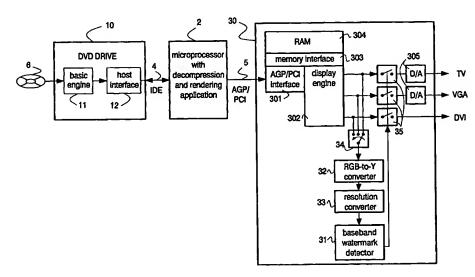
- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): TALSTRA, Johan, C. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). OOSTVEEN, Job, C. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). LANGELAAR, Gerrit, C. [NL/NL]; c/o Prof. Holstlaan 6,

NL-5656 AA Eindhoven (NL). KALKER, Antonius, A., C., M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). MAES, Maurice, J., J., J.-B. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

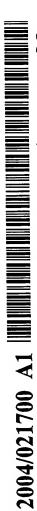
- (74) Agent: SCHMITZ, Herman, J., R.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: METHOD AND ARRANGEMENT FOR WATERMARK DETECTION



(57) Abstract: Watermark-detection in the graphics card of a personal computer, for the purpose of copy-protection, has recently started to draw a lot of attention in standardization. Detection in the graphics card has problems completely different from the formerly considered detection in the DVD-drive, having to do with high data-rates, large scale-ranges and presence of multiple video-streams in the display area. This invention proposes conversion (32) of the computer's RGB output into a luminance signal (Y) prior to watermark detection by a conventional watermark detector (31) being arranged to detect the watermark in a such a luminance signal. The resolution of the monitor image to be inspected is preferably converted (33) to the conventional TV resolution of the (MPEG2-compressed) contents being played back on the computer's DVD drive. In graphic cards providing multiple outputs (VGA, TV, DVI), the same watermark detector may be time-sequentiall connected (34) to each of the outputs.



#### 

#### Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU,

TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

#### **Published:**

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.